



## Curriculum Vitae – Chih Chen



### Executive summary

M.S. in Petroleum Engineering from the University of Tulsa, Oklahoma and B.S in Petroleum Engineering from the National Cheng-Kung University, Taiwan. Over 25 years experience in pressure transient analysis, reservoir simulation, production analysis, secondary/tertiary recovery, gas lift design, reservoir and production engineering.

### Employment History

- 1994 to date KAPPA:** Based in Houston, Texas, Manager for North and South America. Responsible for the technical development of the Saphir engine, client technical support, consulting, training and marketing. Also is in charge of China market. Also conducting research on developing new solutions for Saphir.
- 1990 - 1994 Halliburton Reservoir Services:** Based in Carrollton, Texas, Senior Development Engineer in charge of developing a well test design package. Conducted research on developing new multi-fractured horizontal well analytical solutions and a layered system simulator. Worked with Halliburton Logging Services on research into the pressure behaviour of formation testers considering mud invasion and supercharging effects. Provided technical support to field engineers on well test design, data analysis, production optimisation and planning.
- 1989 - 1990 Baroid Corporation:** Based in Houston, Texas, Advisory System Analyst. Transferred from Sperry Sun to develop PC based personnel tracking, fleet management, stock grant and inventory control systems. Simultaneously responsible for data communication between mainframe and PCs. Provided technical support to Sperry-Sun field engineers and customers on well test design and data interpretation.
- 1986 - 1989 Sperry-Sun:** Based in Houston, Texas. Technical and software supervisor wrote software specifications to meet pressure services field requirements, obtained approval for program design, wrote major modules and supervised creation of supporting modules. Complete software support for real-time data analysis of downhole and surface gauges; well test design and data interpretation, nodal analysis, screen graphics and plotting. Well test technical support for the field and marketing.
- 1984 - 1986 Sperry-Sun:** Based in Houston, Texas. Senior Reservoir Engineer. Project leader responsible for developing a well test design software which recommended appropriate test procedures by simulating well pressure response, with user-input reservoir type and other parameters. Preparation and presentation of in-house training courses in well test interpretation.
- 1982 - 1984 Science Applications, Inc :** Based in Morgantown Va, Reservoir Engineer. Developed a production analysis software package combining production and reservoir engineering principles to aid decision-making. Responsible for well test analysis of the GRI multiple well transient test program in Meigs County, Ohio. Developed analytical solutions for type curve generation and software for simulation of well test analysis and reservoir studies. Trained engineers in well test analysis.



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- 1982 - 1982 Flopetrol-Johnston/Schlumberger (Lafayette, LA):** Reservoir Engineer - Responsibilities included well test design and interpretation, production test analysis, Nodal analysis and gas lift design. Technical support for offshore and land-based reservoir testing field operations.
- 1981 - 1982 University of Tulsa (Tulsa, OK):** Research Assistant - Conducted research on pressure behaviour of naturally fractured reservoirs, including interference tests, constant pressure production and constant rate production.

### Publications

Chen, C.C., "A Study of Naturally Fractured Reservoirs" M.S. Thesis, 1982.

Chen, C.C., Yeh, N.S., Raghavan, R., and Reynolds, A.C., "Pressure Response of Observation Wells in Fractured Reservoirs", SPEJ December 1984.

Chen, C.C., Serra, K., Reynolds, A.C., and Raghavan R., "Pressure Transient Analysis Methods for Bounded Naturally Fractured Reservoir", SPEJ June 1985.

"Multiple Well Transient Test Program in Meigs County, Ohio", Science Applications Inc., SAI/GRI contract, Final Report, April 1984.

Chen C.C., Alam, J., and Vozniak, J., "Evaluation of Naturally Fractured Gas Shale Production Utilizing Multi-Well Transient Tests - A Field Study", SPE 12872, presented at SPE/DOE/GRI Unconventional Gas Symposium, Pittsburgh, PA., May 1984

Chen, C.C., "Production Analysis Package (PAP)", Computer program and documentation reported to IR&D Committee, Science Applications Inc., June 1984.

Chen, C.C., "Well Test Design and Simulation Software", Computer program and documentation reported to NL Sperry-Sun Inc., December 1986.

Chen C.C., Ozkan E. and Raghavan R., "A Study of Fractured Wells in Bounded Reservoirs", SPE 22717, presented at the 1991 annual Technical Conference and Exhibition, Dallas, TX, Oct. 6-9, 1991.

Waid M.C., Proett M.A., Chen C.C. and Ford W.T., "Improved Models for Interpreting the Pressure Response of Formation Testers", SPE 22754, presented at the 1991 Annual Technical Conference and Exhibition, Dallas, TX, Oct. 6-9, 1991.

Waid M.C., Proett M.A., Vasquez R., Chen C.C., and Ford W.T., "Interpretation of Wireline Formation Tester Pressure Response with Combined Flowline and Chamber Storage, Mud Supercharging and Mud Invasion Effects", Paper SPWLA 92-HH presented at the Annual Technical Conference, 1992.

Raghavan R., Chen C.C. and Agarwal B., "An Analysis of Horizontal Wells Intercepted By Multiple Fractures", SPE 27652, presented at the 1994 SPE Permian Basin Oil and Gas Recovery Conference held in Midland, Texas, March 16-18, 1994.



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Chen C.C., Chu W.C. and Sadighi S., "Pressure Transient Testing Of Gas Reservoirs With Edge-Water Drive", SPE 28381, presented at the 1994 SPE Annual Technical Conference and Exhibition, New Orleans, LA, Sept. 25-28, 1994.

Chen C.C. and Raghavan R., "Modeling A Fractured Well In A Composite Reservoir", SPE 28393, presented at the 1994 SPE Annual Technical Conference and Exhibition, New Orleans, LA, Sept. 25-28, 1994.

Chen C.C., and Raghavan R., "An Approach To Handle Discontinuities By The Stehfest Algorithm", SPE 28419, presented at the 1994 SPE Annual Technical Conference and Exhibition, New Orleans, LA, Sept. 25-28, 1994.

Hunt J.L., Chen C.C., and Soliman M.Y., "Performance of Hydraulic Fractures In High Permeability Formations", SPE 28530, presented at the 1994 SPE Annual Technical Conference and Exhibition, New Orleans, LA, Sept. 25-28, 1994.

Chen C.C. and Raghavan R., "Computing Pressure Distributions in Wedges and Pinch-Outs", SPE 30555, presented at the 1995 SPE Annual Technical Conference and Exhibition, Dallas, TX, Oct. 22-25, 1995

Soliman M.Y, Azari, M., Hunt, J.L. and Chen C.C., "Design and Analysis Of Fractured Horizontal Wells In Gas Reservoirs", SPE 35343, will be presented at the International Petroleum Conference and Exhibition of Mexico, Villahermosa, Mexico, Mar. 5-7, 1996.

Chen C.C. and Raghavan R., "A Multiple-fractured Horizontal Well in a Rectangular Drainage Region", SPE 37072, presented at the 1996 International Conference on Horizontal Well Technology in Calgary, Canada, Nov. 18, 1996.

### Professional Memberships

Society of Petroleum Engineers of AIME  
Technical Editor, SPE Reservoir Evaluation & Engineering Editorial Review Committee, 1998-present: Technical Committee Member, Pressure Transient Testing, SPE Annual Meeting, 1999-2002